



December 17, 2012

NWS Operations Proving Ground Announcement of Opportunity

NWS Operations Proving Ground
7220 NW 101st Terrace
Kansas City, MO 64153

Announcement of Opportunity – NWS Operations Proving Ground

I. Operations Proving Ground - Objectives and Priorities

The National Weather Service (NWS) Weather Ready Nation (WRN) initiative is founded on a set of strategic goals outlined in four component “roadmaps” (Workforce Evolution, Business Plan, Science and Technology, and Services). The NWS Operations Proving Ground (OPG) serves as a framework for advancing two of those components: Services and S&T.

Testing of advanced operations, services, and S&T capabilities, which address the needs of both internal and external users, are facilitated in the OPG. By creating a streamlined research-to-operations (R2O) and operations-to-research (O2R) process, an iterative, two-way interaction between S&T development and NWS operations may be optimized.

The OPG is also charged with facilitating the WRN objective to expand competency and capacity among NWS forecasters for providing enhanced impact-based decision support services (IDSS) to core partners nationwide. A critical element to achieving this goal involves training and certification of Emergency Response Specialists (ERSs). These ERSs represent the backbone of extending IDSS for high-impact events, whether on a scheduled basis or on demand in the context of hazardous emergency incidents.

While all NWS operational personnel will ultimately receive training related to IDSS, and thus attain baseline IDSS proficiency, ERS certification will be required for individuals who deploy to high-impact venues to provide on-scene support, as a supplementary force to the (Incident Meteorologist (IMET) program. The OPG addresses basic ERS DSS proficiency training by hosting in-residence simulation workshops where tools and skill sets needed for first class support in an Emergency Operations Center (EOC) or other Incident Command Structure (ICS) environment can be developed and validated in a realistic disaster response setting.

II. Operational Readiness Opportunity Description

The NWS OPG, with support from the NOAA Test Beds and Proving Grounds Coordinating Committee (TBPGCC), is soliciting proposals for candidate tools and capabilities to be incorporated into FY13 Operational Readiness Evaluations (OREs) at the OPG. This notice describes guidelines for the submission of proposals, and the process by which potential capabilities will be tested, evaluated, and validated for operational readiness and subsequent implementation into the mainstream profile of NWS Weather Forecast Offices (WFOs) and River Forecast Centers (RFCs).

Eligible applicants include: NOAA Labs and Test Beds, NWS Regional Headquarters, WFOs, RFCs, and some NOAA-affiliated training centers or qualified cooperative institutes.

III. Operational Readiness Eligibility Information

The primary goal of OPG ORE sessions is to test, evaluate, and validate capabilities which have demonstrated value for improving diagnosis, forecasting, and/or warning processes in the NWS operational environment. Additionally, capabilities aimed at enhancing the provision of IDSS to core partners who need NWS expertise to make critical risk management decisions will also be

considered for inclusion in an ORE session. Prior to acceptance for evaluation in the OPG, candidate capabilities must have been rigorously assessed and proven useful in an approved developmental environment, such as a NOAA Test Bed Experiment, a GOES-R Proving Ground Demonstration, NWS WFO/RFC Operational Experiment, etc.

Proving Ground Goals: For FY13, priority will be given to proposals which highlight capabilities that:

- Enhance IDSS and effective risk communication
- Improve internal/external collaboration
- Advance the use of new science/technology/remote sensing/modeling techniques, etc.
- Improve accuracy, confidence, and/or timeliness in weather analysis and forecasting

If selected, candidate capabilities will undergo validation activities which will be conducted in a realistic operational setting and will place equal weight on three aspects of the forecast process:

- 1) usefulness of the tool, data set, or capability for improving forecaster decision making; enhancing forecast accuracy or confidence;
- 2) impact on work load, work flow, processing efficiency, value added in comparison with other known tools or practices, and other human factors; and
- 3) effective communication of weather information and associated risks/impacts to partners, including national-regional-local interactions in end-to-end service delivery.

To be considered for operational implementation, capabilities selected for an ORE must successfully meet the three aspects identified above, with no appreciable negative impact on existing systems and practices.

The OPG will likely target 1-3 interrelated capabilities for this ORE session.

Evaluation Session Teams will be formed to conduct this ORE Session. Since the objective of any ORE session is an official readiness endorsement for deployment into NWS operations, it is imperative for the OPG test environment to realistically simulate the conditions of a WFO or RFC. As such, the primary participants on an evaluation team will be certified forecasters from NWS field offices. Participating NWS forecasters will be selected through NWS Regional Headquarters. Additional team members may include contributions from: OPG Facilitators; appropriate information technology (IT) specialists and/or systems engineers; collaboration entities (NOC, ROC, FEMA Regions, neighboring WFOs, etc.); representatives from core partner agencies (e.g., FEMA HQ, USACE, local EM community, broadcast media, etc.); and relevant observers or assessors (e.g., social scientists, NWS managers).

IV. Application Review Information

A. Evaluation Criteria

A Proving Ground Review Panel (PGRP) will be convened to appraise qualifying proposals submitted prior to the deadline. Composition of the PGRP will be addressed in *Section IV. B.* The PGRP will evaluate each proposal upon the extent to which the following criteria (listed with assigned weights) are satisfied:

1. Relevance and Applicability to Proving Ground Goals (50 points)

This criterion ascertains whether there is intrinsic value in the candidate capability for advancing NWS strategic Weather Ready Nation (WRN) initiatives, or addressing particular service gaps which have been identified as high priority needs. Specific weight will be given to proposals aimed at achieving one or more of the four Proving Ground Goals listed in Section III above.

Example questions which may be asked to determine relevance and applicability:

- Is the proposal directed toward an operational priority established by Regional SSD and/or MSD Chiefs (or their equivalents)?
- Does the proposal serve to advance one of the priorities explicitly identified in the WRN Road Map?
- Potential Scope - Does the candidate capability have the potential to be implemented throughout the NWS, or is it limited to a small subset of offices (e.g., 9 WFOs on the Great Lakes)?

2. Maturity of Capability (40 points)

This criterion ascertains whether the candidate capability has demonstrated sufficient maturity of development and reliability for inclusion in an ORE session.

- **Testing (20 points)** - Has the operational readiness (i.e., technical merit, software maturity, processing efficiency, compatibility with operational systems, value to the forecast or communication process) of the candidate capability been established by testing in an appropriate developmental environment (e.g., a NOAA Test Bed, the GOES-R Proving Ground, etc.)?
- **Training Material (5 points)** – Are there existing training resources already developed and available to facilitate and streamline implementation?
- **Forecaster Endorsement (15 points)** - Will this transition lead to a meaningful service enhancement, or a new analysis/forecast tool that proves practical and beneficial to the operational forecast environment?

3. Project Costs and Required Resources (10 points)

This criterion ascertains whether it is feasible to evaluate and validate the candidate capability for transition to operations vis-a-vis budgetary constraints and other resources needed.

- Are there funds and/or resources available for participation in the ORE session?
- Are the needed IT resources, time demands, etc., required to set up and support this experiment appropriate and reasonable with respect to the benefit to be gained?
- Would investment in this project require an inappropriate fraction of the available funds and support resources?
- Are other supplementary resources available to offset these costs?

B. Review and Selection Process

All proposals will receive an independent, objective review in accordance with the criteria specified above (*Section IV. A*). Review will be conducted by the PGRP, which will typically be comprised of 6-10 members. The PGRP normally includes the OPG Director, the OPG Chief Scientists, appropriate representatives from the NWS Regions (i.e., individuals who can speak

authoritatively to regional priorities for Science, Services, and/or Systems), and Field Operations Advisors (MICs, SOOs, WCMs, ESAs, ROC staff, etc.). If needed, appropriate subject matter experts (e.g., AWIPS-2, WSR-88D, GOES-R, etc.), or relevant external stakeholders (e.g., Emergency Managers, Social Scientists, Media Partners, etc.) may also be invited. External stakeholders are involved for input only. They do not participate in rank ordering, and they do not contribute directly to consensus advice on summary reports.

Each member of the PGRP will individually evaluate and score the proposals. PGRP members' scores will be used to produce a rank ordering of the projects by overall mean total scores, after normalizing by individual reviewer's mean total scores. Reviewers will provide their scores and any comments to the OPG Director, who will then prioritize proposals for inclusion into the ORE session.

The PGRP will be reconvened to review ORE results, contribute to a summary report for each evaluation session, and provide counsel on recommendations with respect to readiness of each test element for operational implementation.

Decisions on operational implementation are at the sole discretion of NWS Senior Leadership. Operational deployment and implementation of validated capabilities may or may not occur, regardless of whether defined metrics for success were met during the ORE session. For example, upon receiving the summary report and recommendation for a new technology which tested successfully in an ORE session, NWS leadership will filter the implementation decision through a cost-benefit analysis that includes consideration of criteria such as:

1. Operational Benefit: expected improvement in operational forecast and/or analysis accuracy
2. Efficiency: adherence to forecaster time constraints and ease of use needs
3. Compatibility: integration with operational hardware, software, data, communications, etc.
4. Sustainability: availability of resources to operate, upgrade, and/or provide support

Note that these criteria are not identical to those used in the evaluation of the proposals.

C. Anticipated Announcement Date

Proposals selected for integration in an ORE session will be notified within 30 business days of the submission deadline – in this case, by April 12, 2013.

V. Proposal Submission Information

A. Notice of Intent (NOI)

Guidelines for preparation of proposals are provided below. Prior to submitting a proposal, eligible contributing organizations (COs) are encouraged to submit a Notice of Intent (NOI). Failure to submit a NOI does not preclude submission of a proposal. Projects with Principal Investigators (PIs) from multiple institutions need only submit one NOI.

The NOI may be a simple e-mail message, or an attached document in common file format (i.e., MS Word, Adobe PDF, etc.), containing:

- Name of PI and submitting organization
- a brief description of the intended project, including how the candidate tool or capability addresses Proving Ground goals
- an overview of estimated resources needed to integrate the capability into an evaluation session

All PIs will be notified whether a full proposal is encouraged or discouraged based on the review of their NOI. Even though a full proposal may be discouraged, a PI will not be precluded from submitting a full proposal.

B. Formal Proposals

Formal proposals should be submitted as e-mail attachments, in Adobe PDF format, preferably no more than 8-10 pages in length. Each proposal must include:

- **Title Page** – signed by the PI(s) and the appropriate representative of their home institution. Each PI and institutional representative should be identified by full name, title, organization, telephone number, mailing address, and e-mail address. For projects that involve multiple organizations, the exact same full proposal and title page must be submitted by each organization, but only the necessary signatures from the organization submitting their copy of the proposal are required.
- **Summary of the candidate tool, data set, or capability** – highlighting relevant history; a brief explanation of how it is envisioned to promote operational improvement; and any evaluations where sufficient maturity and the potential for successful transition to operations were demonstrated.
- **Relevance and Applicability to OPG Priority Goals** – specify how capability proposes to address one or more of the following:
 - Enhance IDSS and effective risk communication
 - Improve internal/external collaboration
 - Advance the use of new science/technology/remote sensing/modeling techniques, etc. in the operational weather analysis/forecast process
 - Improve accuracy, confidence, or timeliness in weather analysis and forecasting
- **Maturity of Capability** – explain in detail the results of rigorous testing that has occurred in an appropriate developmental environment, which qualifies this capability for operational readiness. Identify any training resources developed to facilitate and streamline implementation.
- **Costs and Resources** – identify the following resource and support information:
 - any funding needed, or available, for SME involvement, or to support the integration of candidate capability, into the ORE session
 - systems and IT resources needed to support candidate capability
 - explanation of how candidate capability is accessed, or integrated into forecast operations (e.g., AWIPS, LDM, LDAD, PC-based, mobile app, etc.)

C. Submission Dates and Times

Full proposal packages must be submitted no later than 5:00 p.m. Central Standard Time (CST) on March 1, 2013. The OPG Director determines whether the proposal has been submitted before the deadline by the date and time on the e-mail to which the proposal is attached. Applications received after that time will not be reviewed.

Please address e-mail proposals and any questions concerning this process to the OPG Management Team (John Ogren and Kim Runk) and the OPG Science Coordinator (Chad Gravelle):

John.Ogren@noaa.gov

Kim.Runk@noaa.gov

Chad.Gravelle@noaa.gov

If there are materials which require physical shipping, they may be sent to:

NWS Operations Proving Ground
ATTN: John Ogren
7220 NW 101st Terrace
Kansas City, MO 64153